In[6]:=
```
Sim[f_, a_, b_, n_] :=
  N[(1/3) ((b - a)/n) (f[a] + f[b] + 4 Sum[f[a + k ((b - a)/n)], {k, 1, n - 1, 2}] +
      2 Sum[f[a + k ((b - a)/n)], {k, 2, n - 2, 2}]), 10]
```

In[7]:=
```
f[x_] := Sin[x^2]
```

In[8]:=
```
Sim[f, 0, 1, 10]
```

Out[8]= 0.3102602344

In[9]:=
```
N[∫_0^1 f[x] dx, 10]
```

Out[9]= 0.3102683017

In[10]:=
```
Table[{n, Sim[f, 0, 1, n]}, {n, 10, 100, 10}] // TableForm
```

Out[10]//TableForm=

10	0.3102602344
20	0.3102678001
30	0.3102682027
40	0.3102682704
50	0.3102682889
60	0.3102682955
70	0.3102682984
80	0.3102682998
90	0.3102683005
100	0.3102683009